

A MUTILLID MIMIC OF AN ANT (HYMENOPTERA: MUTILLIDAE AND FORMICIDAE)¹

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ABSTRACT: The female of the Central American mutillid *Pappognatha myrmiciformis* mimics the major worker of the common Neotropical ant *Camponotus sericeiventris*. It is hypothesized that the mimicry is aggressive and may enable the mimic to oviposit on the brood of the model.

"*Camponotus (Myrmepomis) sericeiventris*, owing to its size, wide distribution and dense covering of silver or golden pubescence, is one of the handsomest and most conspicuous ants of the American tropics" (W.M. Wheeler 1931: 86), and one might add, considering the defensive capabilities of a populous colony of large *Camponotus* species, a likely model for mimics. Dr. Wheeler continued (p. 87): "Some years ago Dr. J. Bequaert gave me several peculiar Cerambycid beetles which he had taken June 4, 1924, on tree trunks at Prieta, Honduras, in company with workers of *C. sericeiventris rex* var. *semirex*. The beetles so closely resemble the ants that they may be regarded as highly mimetic."

In 1897 Cameron described (p. 378) a new species of mutillid *Sphaerophthalma myrmiciformis* from a female collected at Bugaba, Panama, and commented that "this species bears a great resemblance to the not uncommon Central-American ant *Camponotus sericeiventris*, amongst specimens of which it was placed in the box when received by me; but I know not if they are found together in nature."

In 1939 Mickel transferred the mutillid species (p. 336) to his new genus (p. 330) *Pappognatha* and adds the following records (all females) from Costa Rica: Zent; "Las Mercedes, bei San Jose. . . on blossoms of Tuga;" Irazu.

Dr. Karl V. Krombein has kindly supplied me with copies of all significant literature of *P. myrmiciformis*, i.e., the two papers mentioned above. In his covering letter (19 January 1983) he stated: "*Pappognatha* has a long, and presumably potent, sting so probably the mimicry should not be ascribed to a requirement for protection by the wasp. We have in the USNM a specimen of *P. speciosa* Mickel reared from the euglossine bee, *Euglossa brullei* Lapeletier, and that is the only host record known to me."

While collecting a sample of *Camponotus sericeiventris* (Guérin) on Barro Colorado Island in Panama, I noticed a specimen running with a

¹Received April 6, 1983. Accepted May 12, 1983.

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peculiar gait. Fortunately I realized just in time that it was a mutillid. Had it been motionless I might have been severely stung as a result of its close resemblance in life to major workers of the ant. This close resemblance is somewhat less evident in Fig. 1, because the color of the golden pubescence of both species does not show in a black-and-white photograph, while the spots on the gaster of the mutillid do show. Mickel stated that *P. myrmiciformis* "differs from other species in the genus in being [almost] entirely pale golden tomentose. . . The yellow, integumental spots on the [gaster] are. . . almost obscured by the pale, golden, tomentose pubescence."

Mimicry is obvious but what purpose does it serve? Certainly not defense, for mutillid females are armed with long powerful stings. But the ant is not defenseless: the major worker of large species of *Camponotus* can easily cut the tough skin of human fingertips. Mutillids are known to be external parasitoids on the larvae and pupae of bees and wasps. Why not ants? Certainly the mature larvae and pupae of the females of this ant are larger than *P. myrmiciformis*.

I would therefore hypothesize that this is an example of aggressive mimicry; the close resemblance may enable the female of *Pappognatha myrmiciformis* to enter the nest of *Camponotus sericeiventris* and deposit her eggs on the brood of the latter; if detected she is quite capable of defending herself.

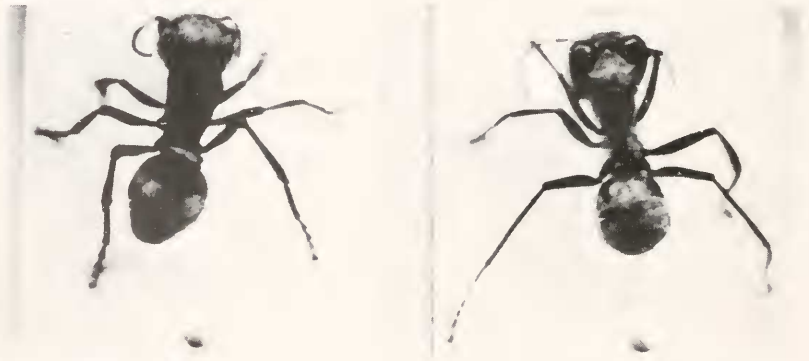


Fig. 1. Photograph by Jeanette Wheeler comparing the dried specimens of the mutillid (left) *Pappognatha myrmiciformis* (Barro Colorado Is., Panama; coll. G.C. Wheeler; 22-VII-1924; det. C.E. Mickel) and a major worker of the ant (right) *Camponotus sericeiventris* (Changuinola District, Bocas del Toro, Panama; coll. G.C. Wheeler; 2-VIII-1924).

LITERATURE CITED

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